

Fig. 1

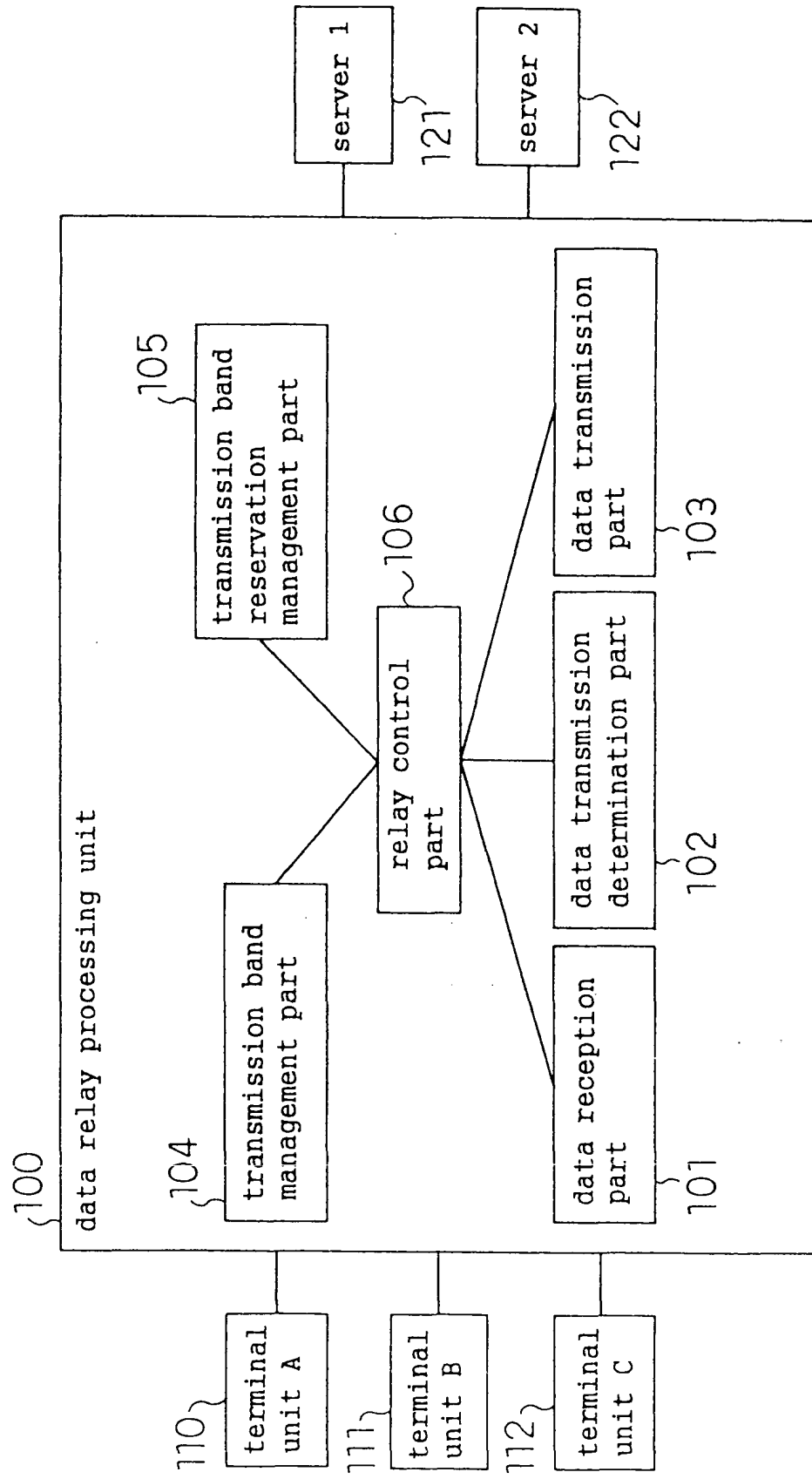


Fig. 2

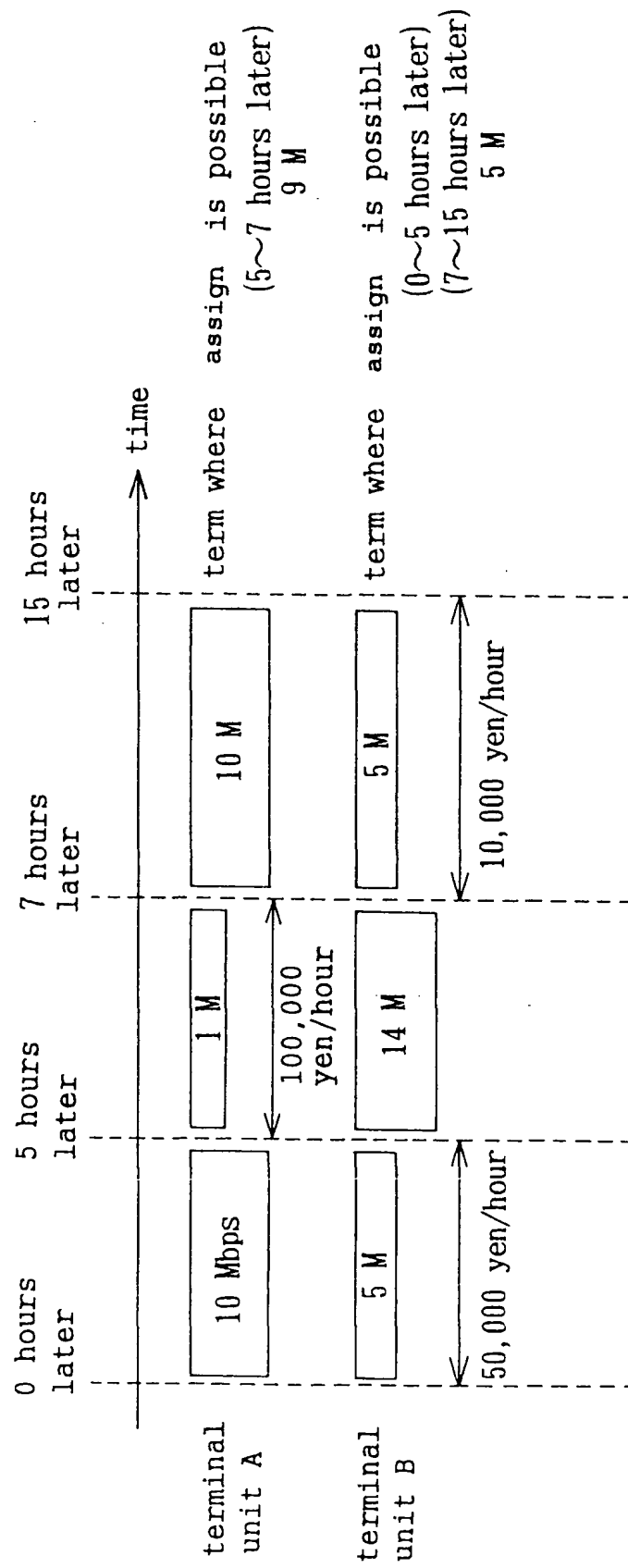


Fig. 3

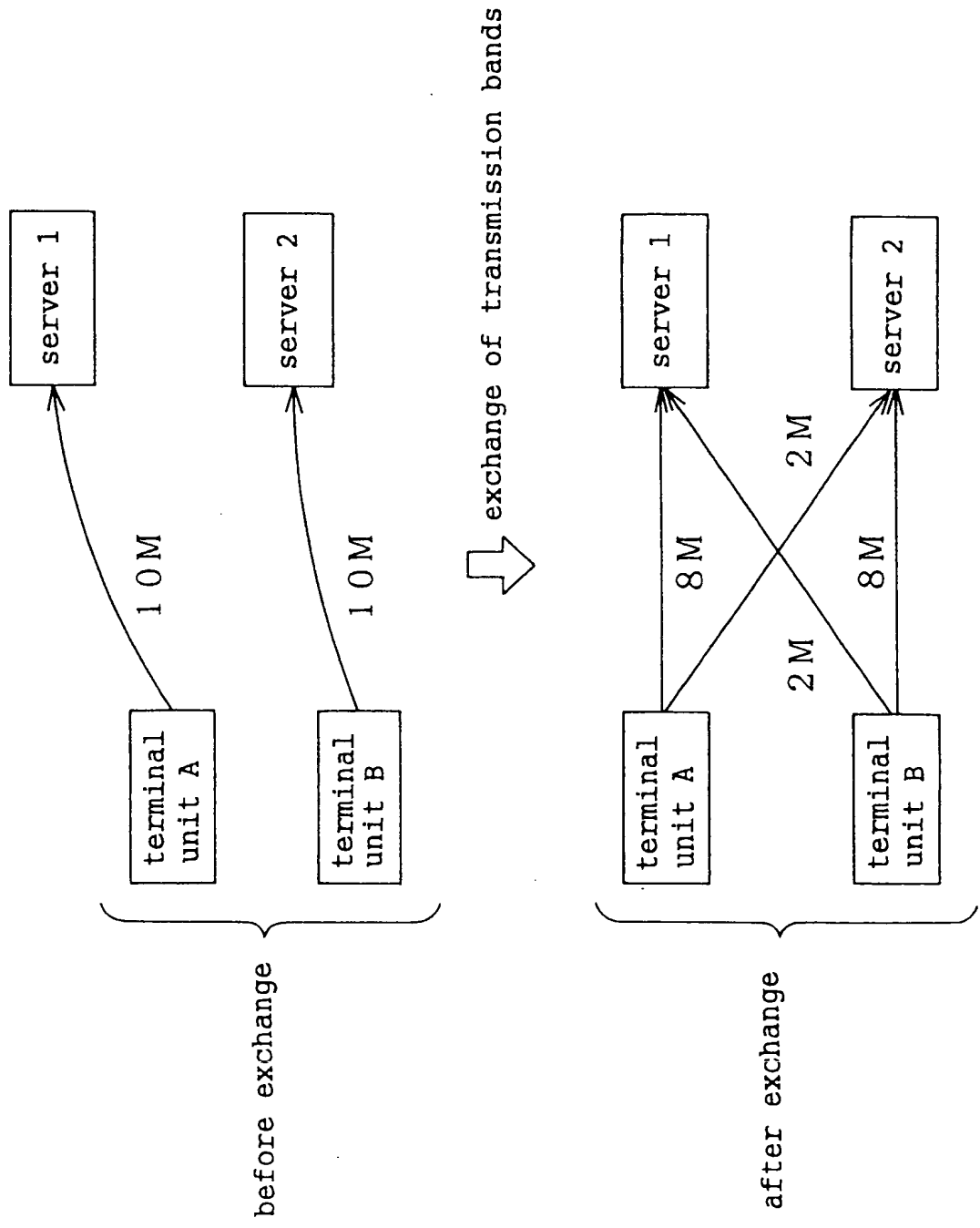


Fig. 4

reserved band number	reserving band	number of assigns	sum of bands assigned	effective term
1	10 M	3	10 M	until 60 seconds later
2	15 M	2	-10 M	until 90 seconds later
3	5 M	1	1 M	until 60 seconds later

number of assigns of relay
processing unit in present data

6

remaining band which is allocable

50M

Fig. 5

terminal name	usage amount of reservation type band	usage amount of non reservation type band	usage ratio of reservation type band
terminal unit A	10 M	2 M	10 / 2 = 5
terminal unit B	10 M	3 M	10 / 3 = 3.3
terminal unit C	20 M	4 M	20 / 4 = 5
.....

Fig. 6

relay unit where terminal A is able to be relayed	allocable band width	communication price	goodness of fit
relay 1	10 M	100,000 /hour	100,000 / 10M = 1
relay 2	20 M	100,000 /hour	100,000 / 20M = 0.5
relay 3	30 M	300,000 /hour	300,000 / 30M = 1
⋮	⋮	⋮	⋮

Fig. 7

number of data relay processing unit	load of data relay processing unit	delay/jitter	packet loss	available/ not available for band reception	reporting interval	effective time
1	10 %	500 msec.	0 %	available	every 50 seconds	100 seconds
2	90 %	50 msec.	10 %	not available	every 120 seconds	60 seconds
3	20 %	50 msec.	2 %	available	every 30 seconds	100 seconds

Fig. 8

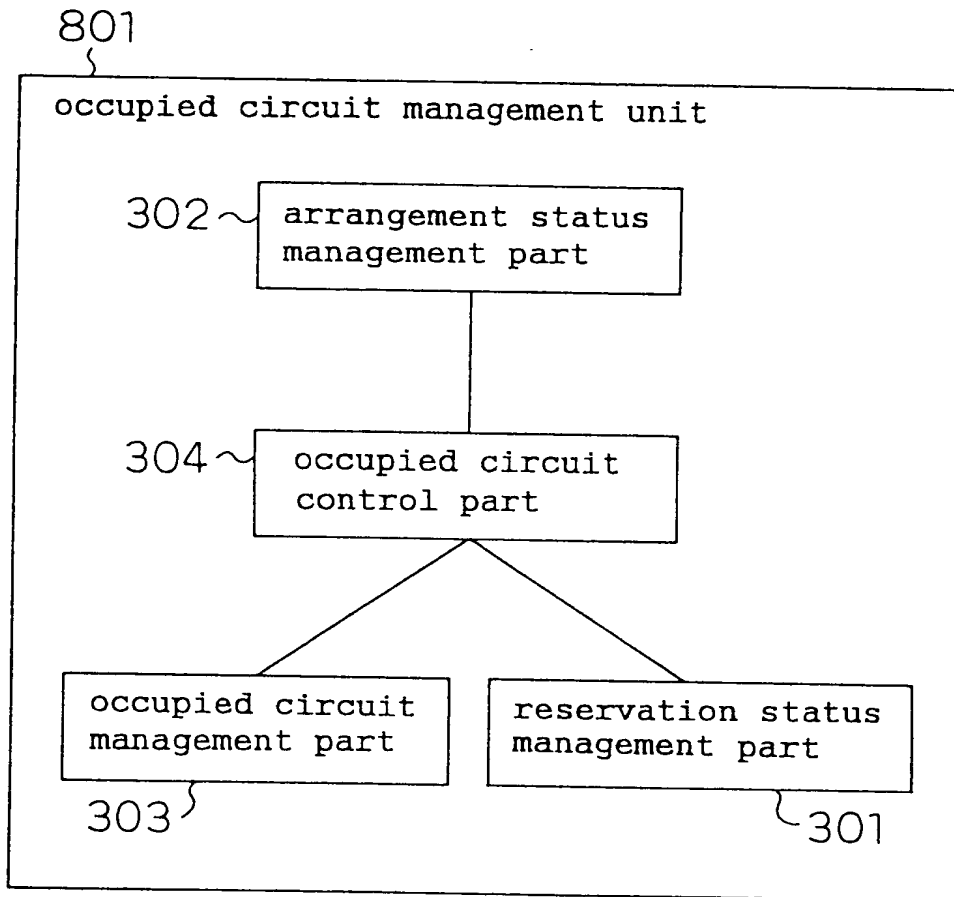


Fig. 9

arrangement information

connection	address
901	901 → 902 or 901 → 903
902	902 → 904

band reservation

relay node	reservation band	allocable remaining bands
901	10 M	30 M
902	10 M	20 M
903	30 M	0 M
904	10 M	40 M

occupied circuit

circuit number	reservation route	number of transfers	sum of bands transferred	effective term
1	901 → 902 → 904	1	10 M	until 60 seconds later
2	901 → 903	1	-10 M	until 30 seconds later

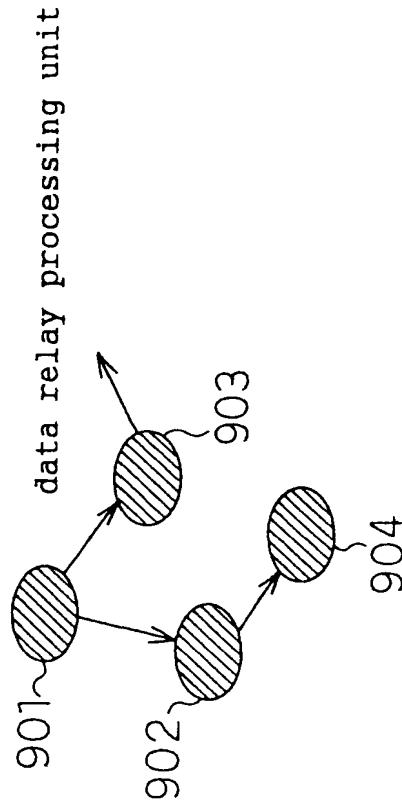


Fig. 10 (a) diversion type

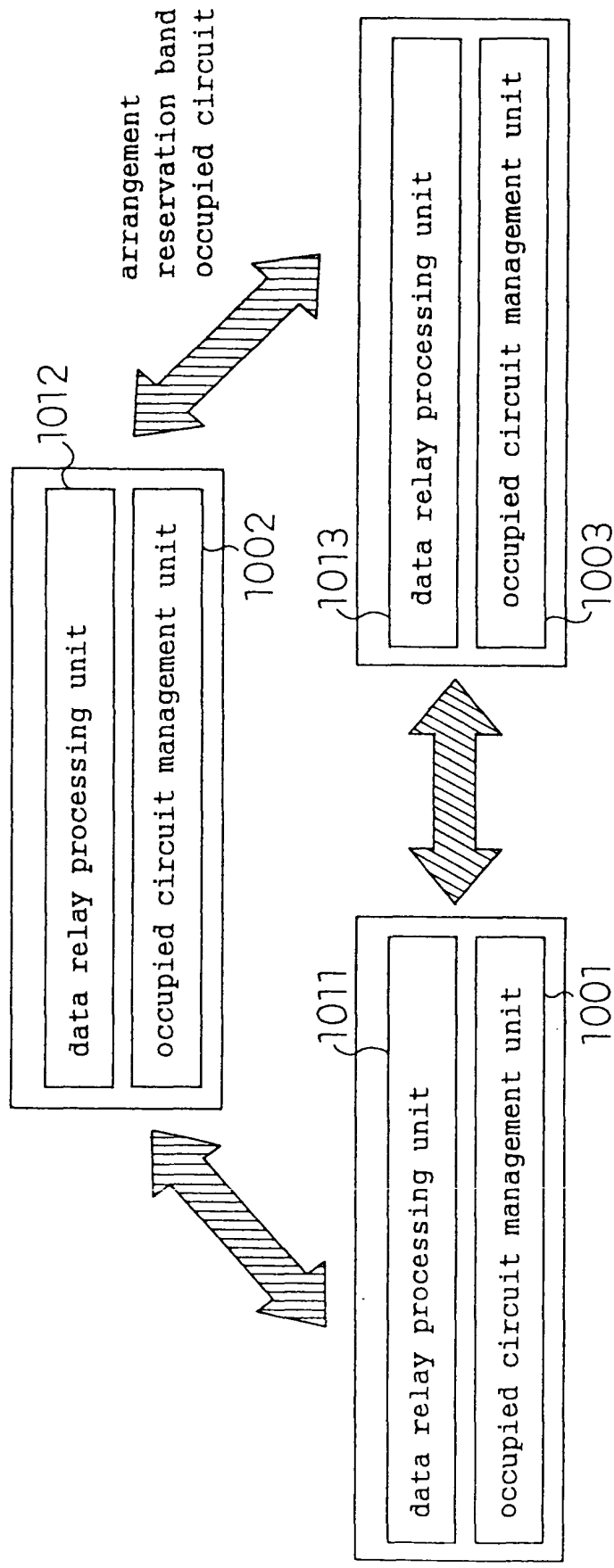


Fig. 10 (b) collective type

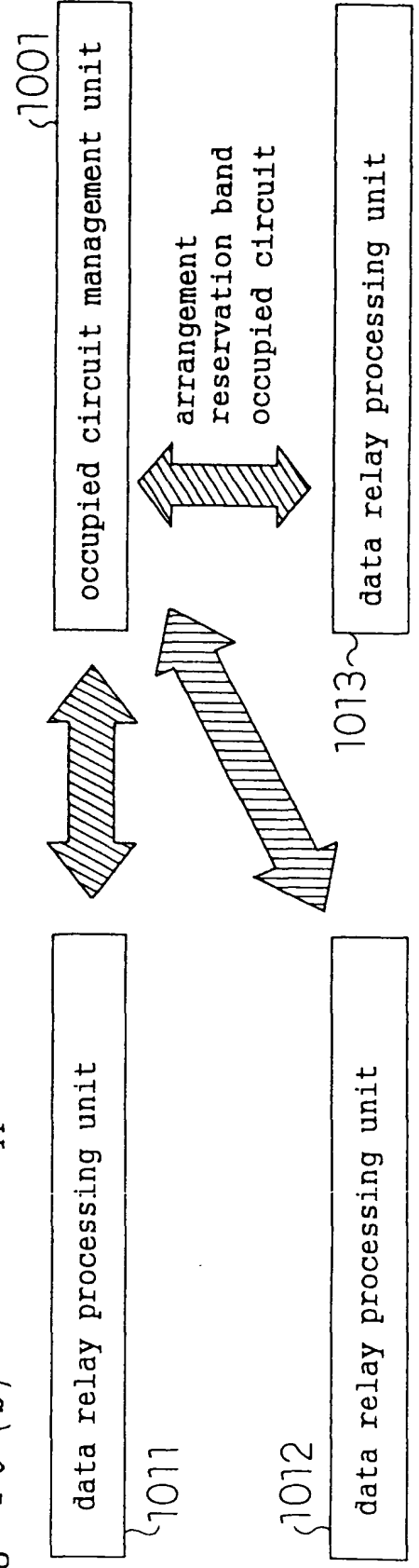


Fig. 11

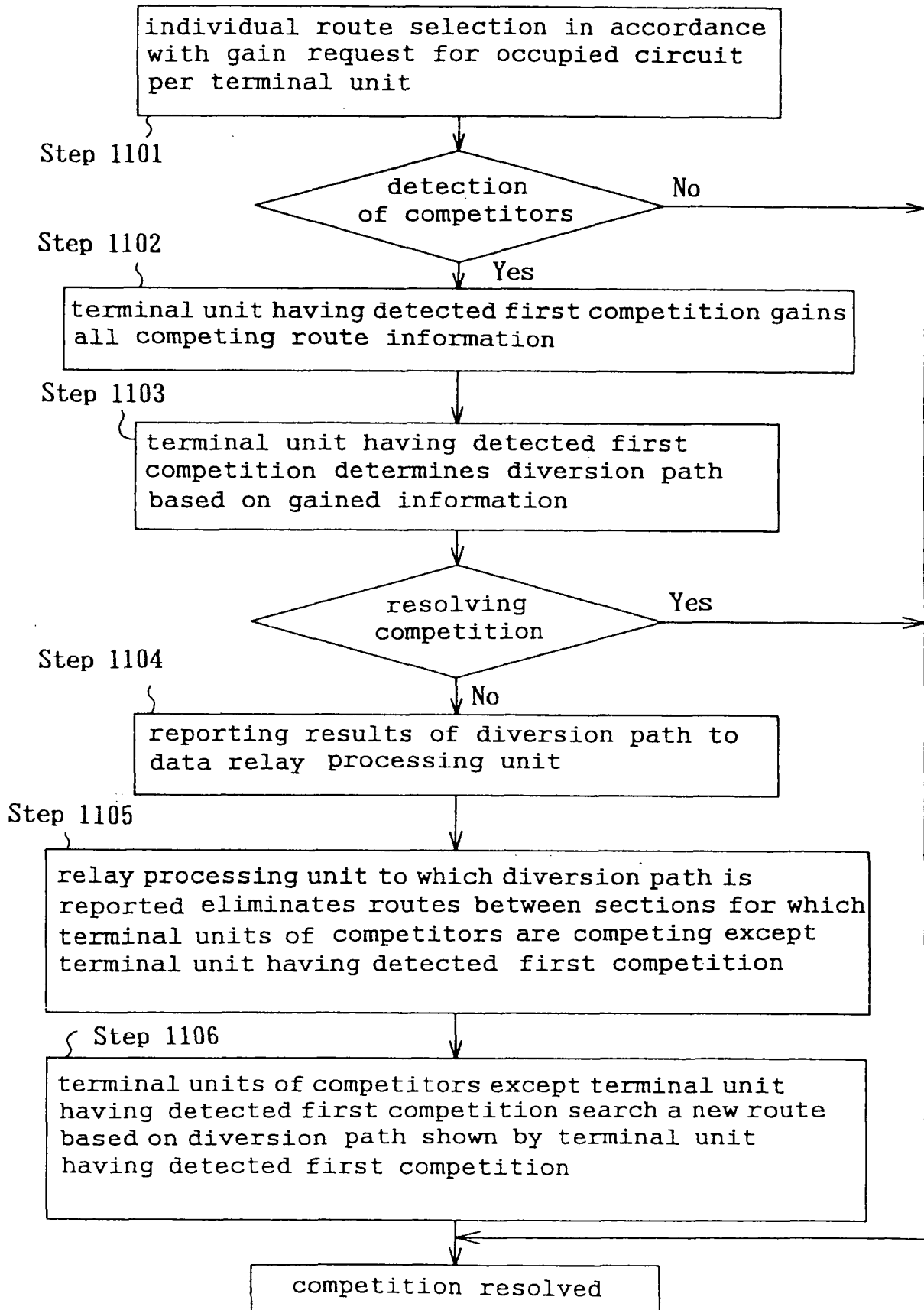


Fig. 12 (a) data relay processing units themselves determine data relay processing unit to be relayed next (securing bands and occupied circuits)

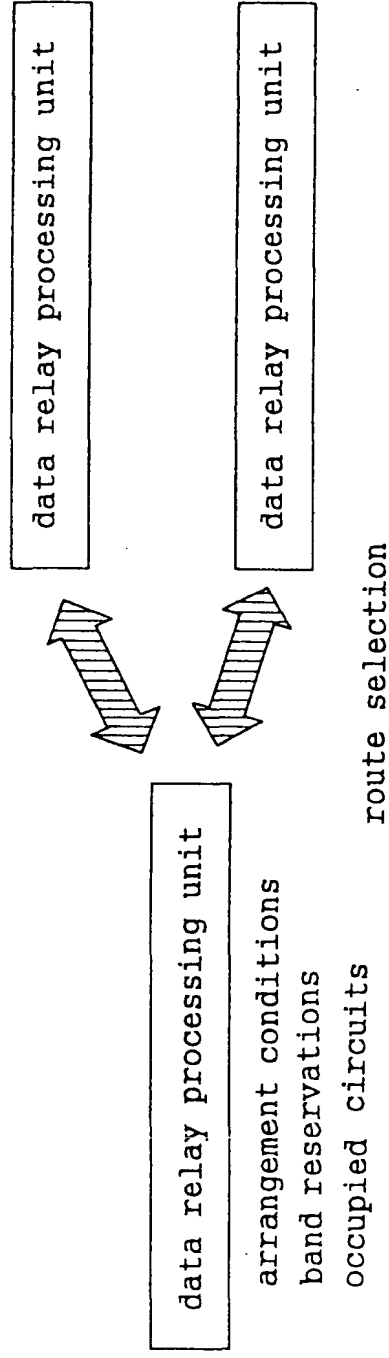


Fig. 12 (b) terminal units determine data relay processing unit to be relayed (securing bands and occupied circuits)

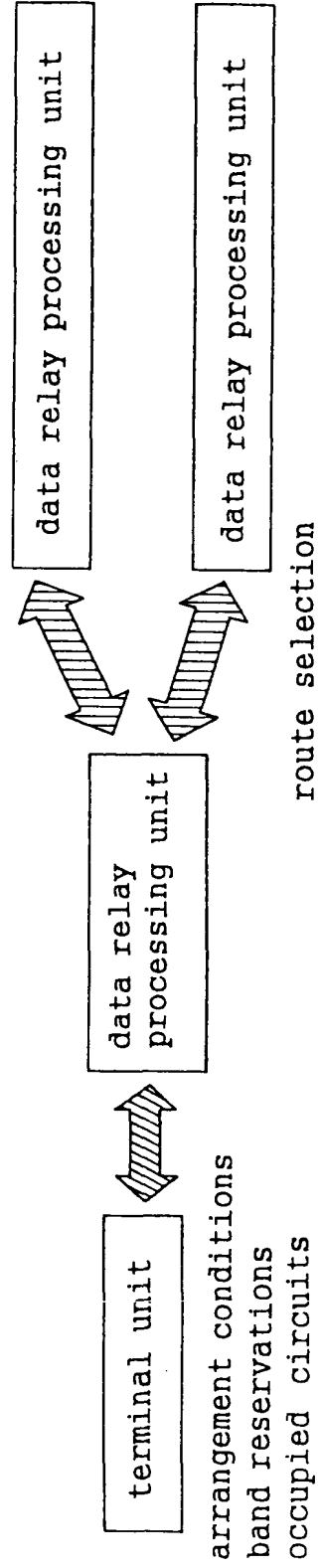


Fig. 13

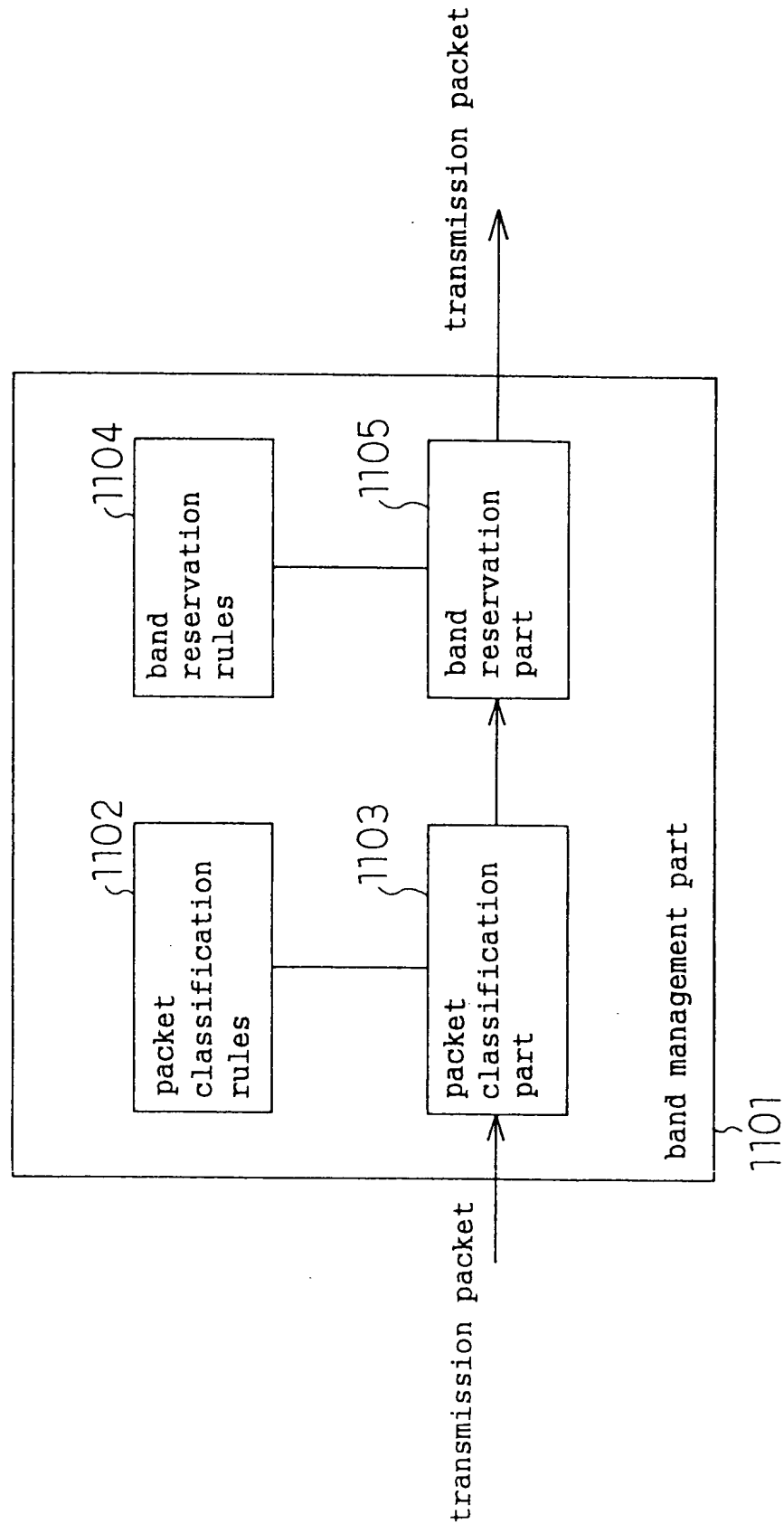


Fig. 14

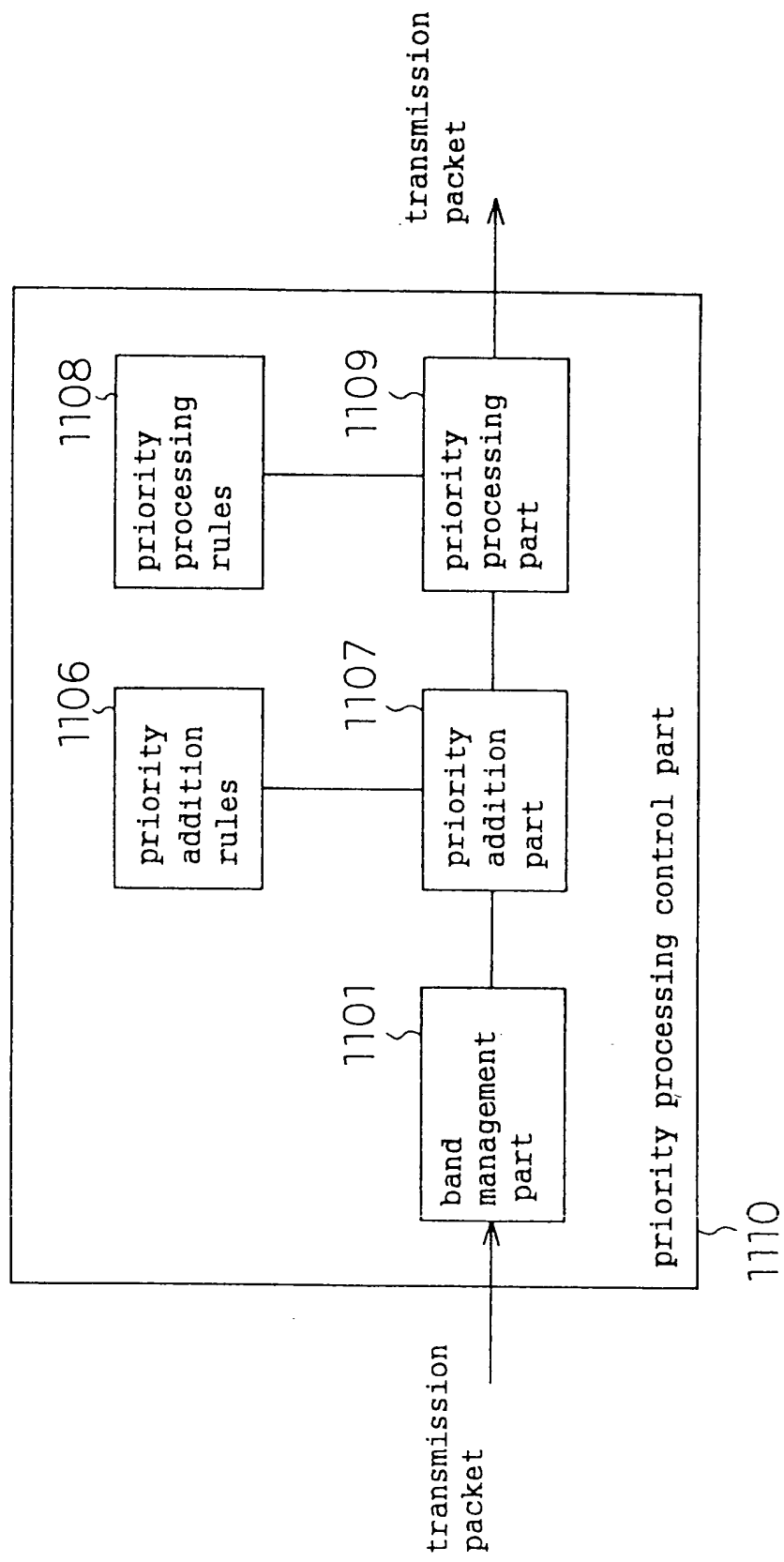


Fig. 15

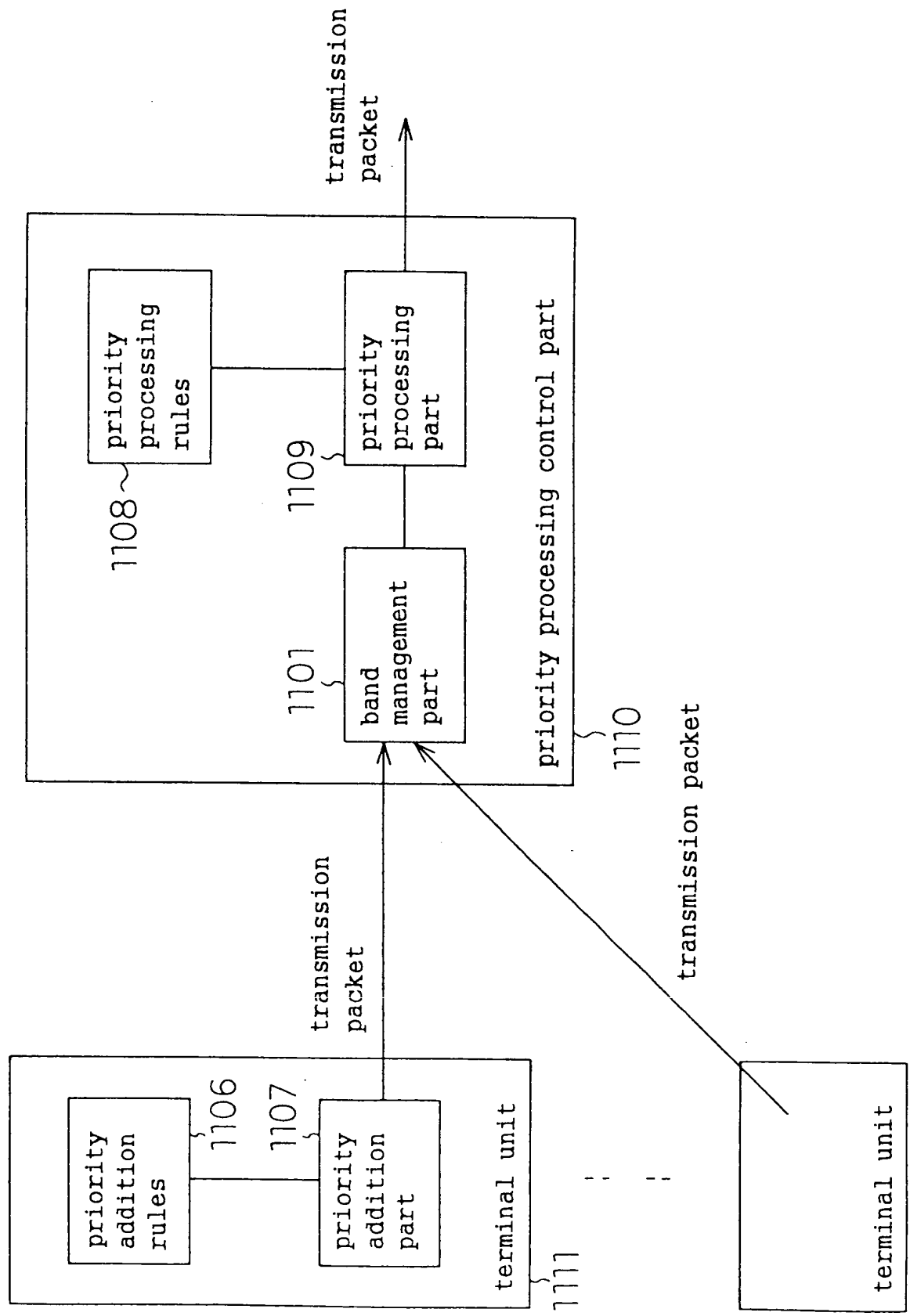


Fig. 16

example of added priority

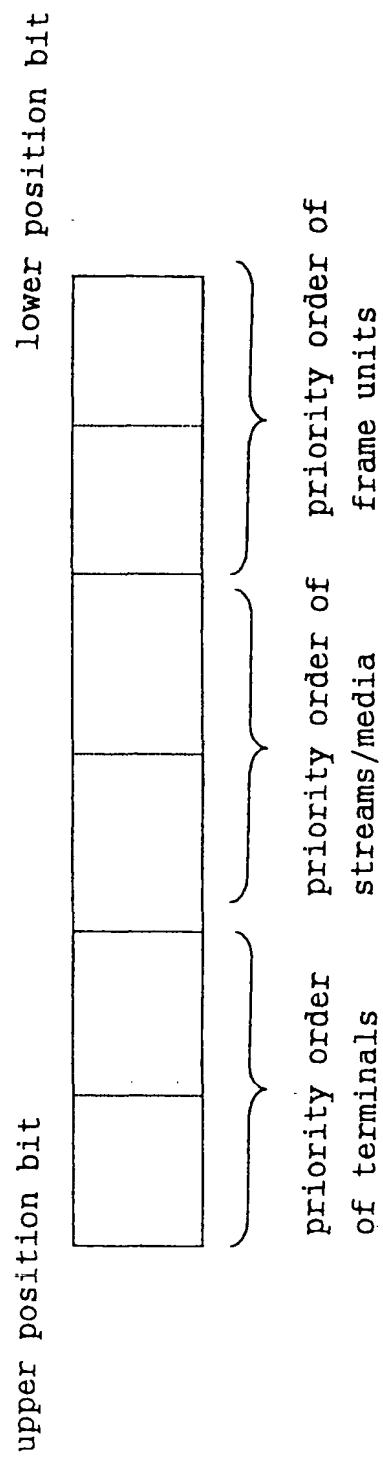


Fig. 17

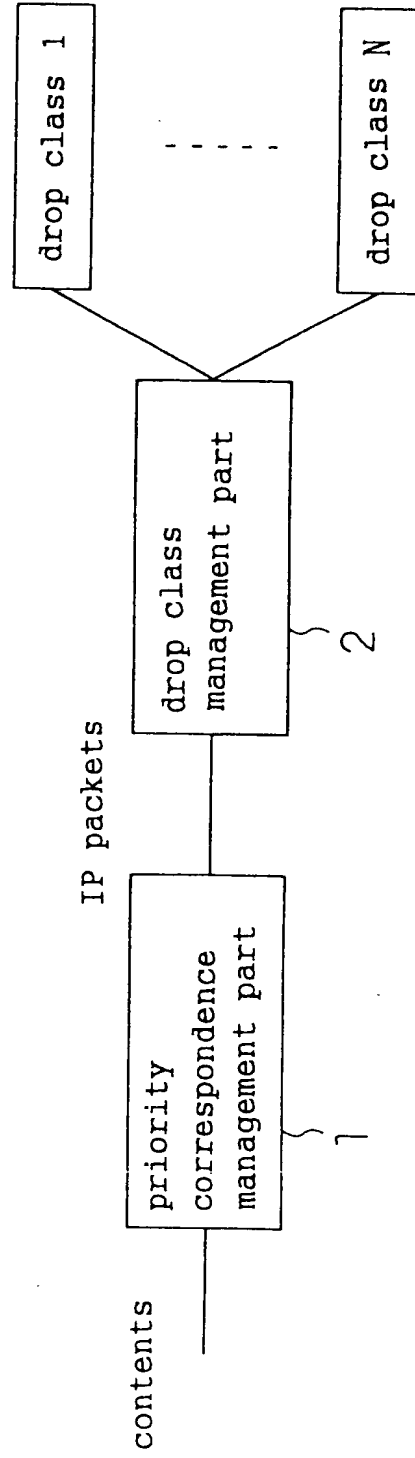


Fig. 18

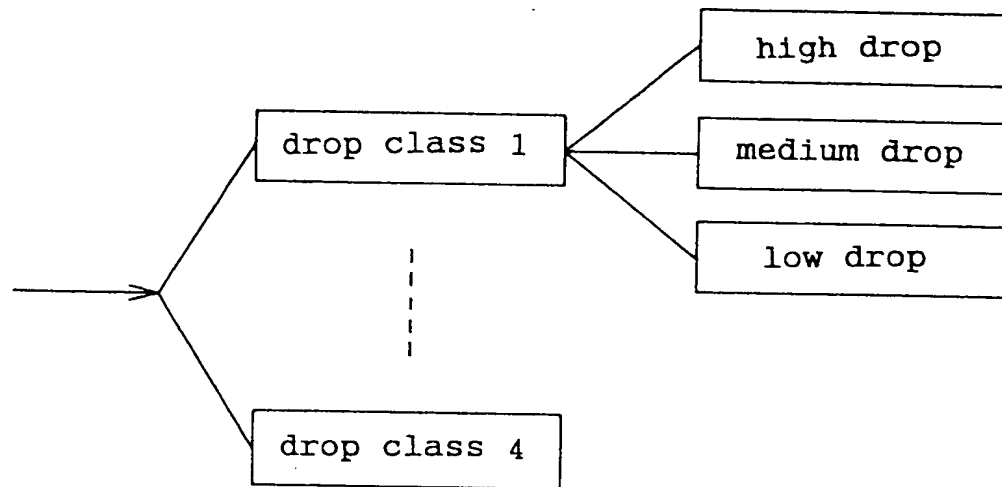


Fig. 19

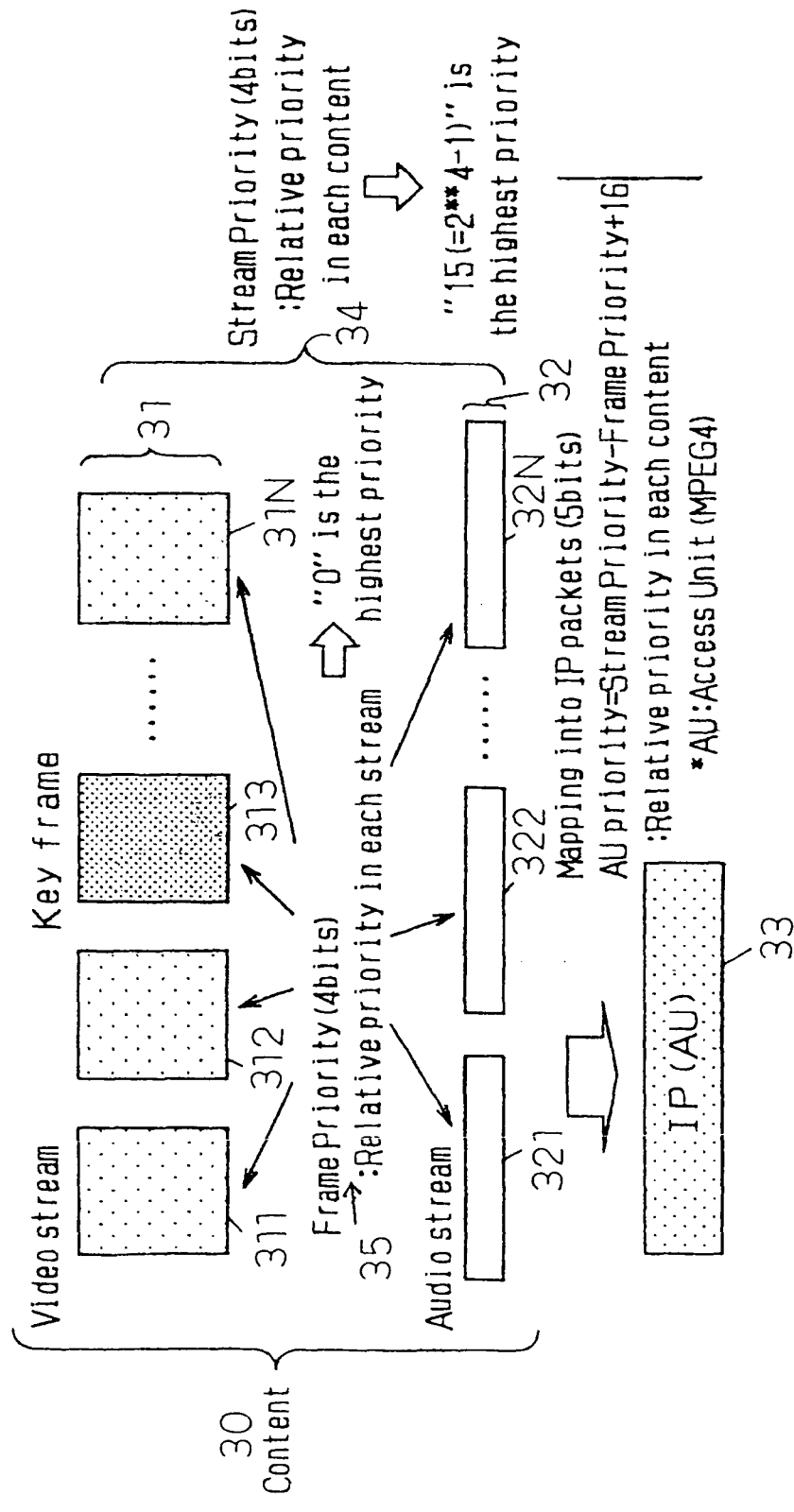


Fig. 20

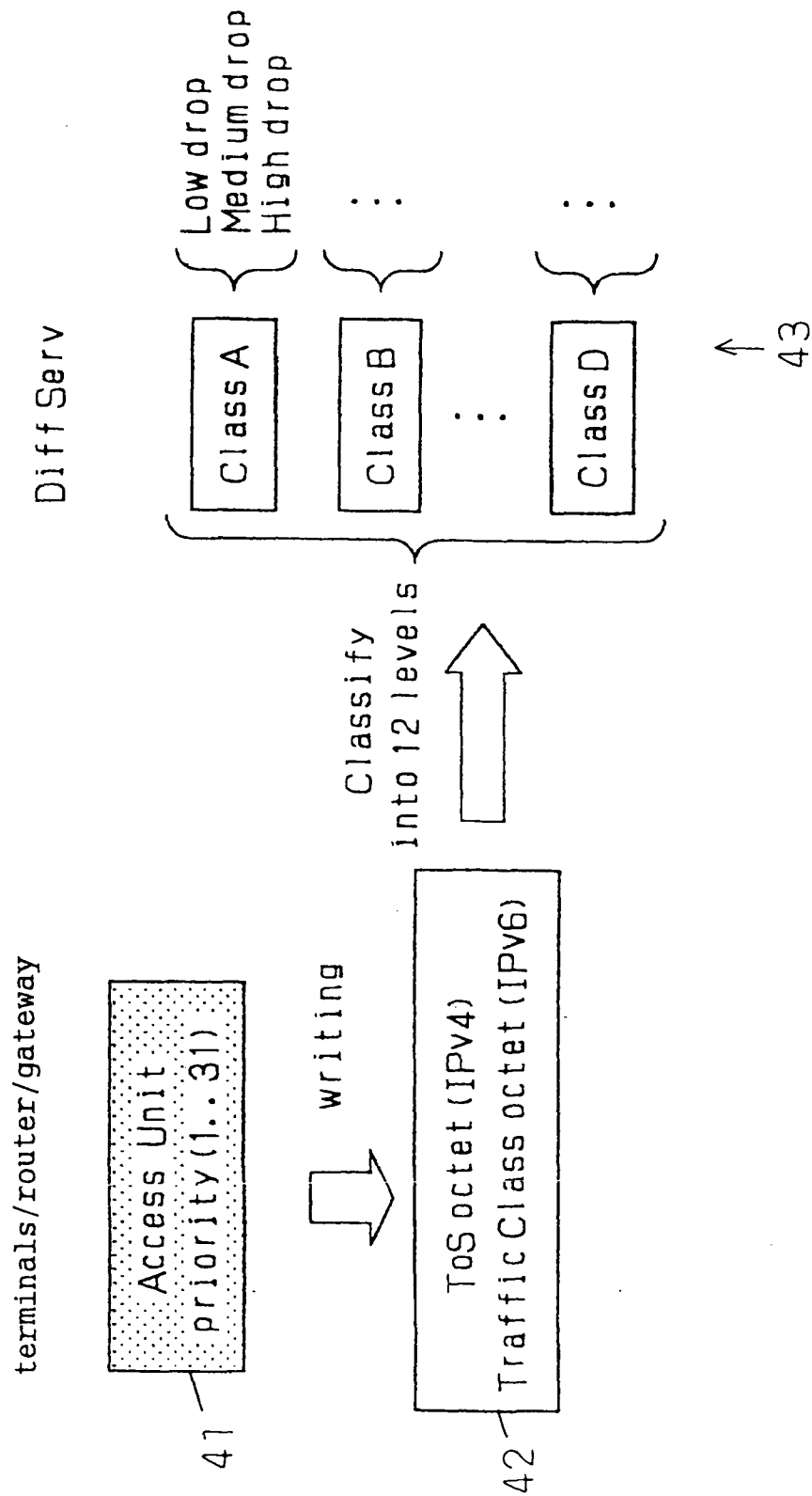


Fig. 21

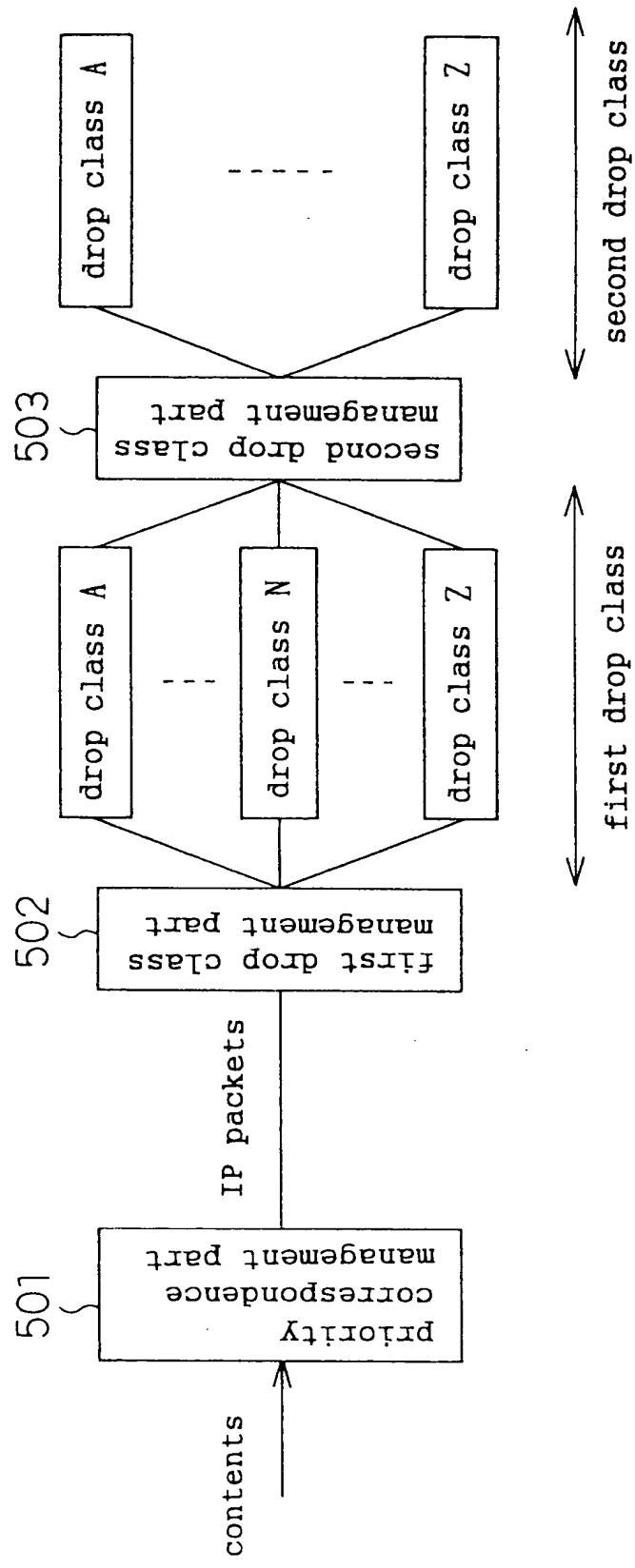


Fig. 22

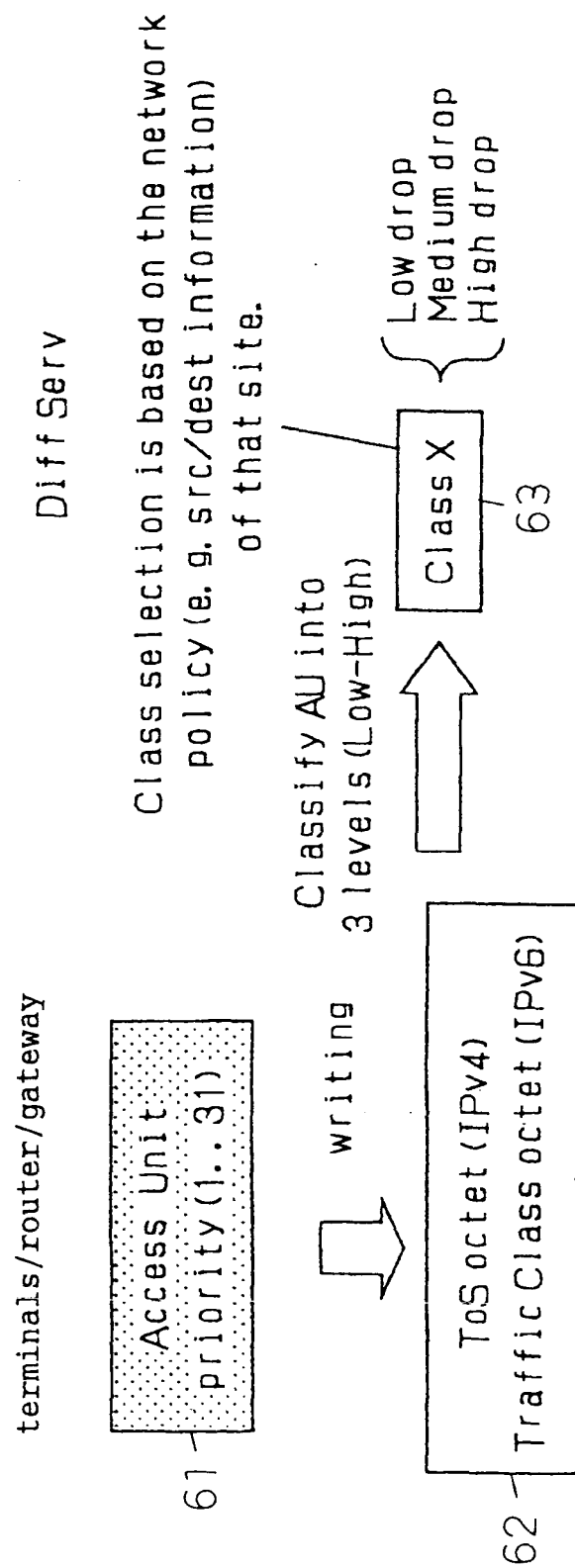


Fig. 23

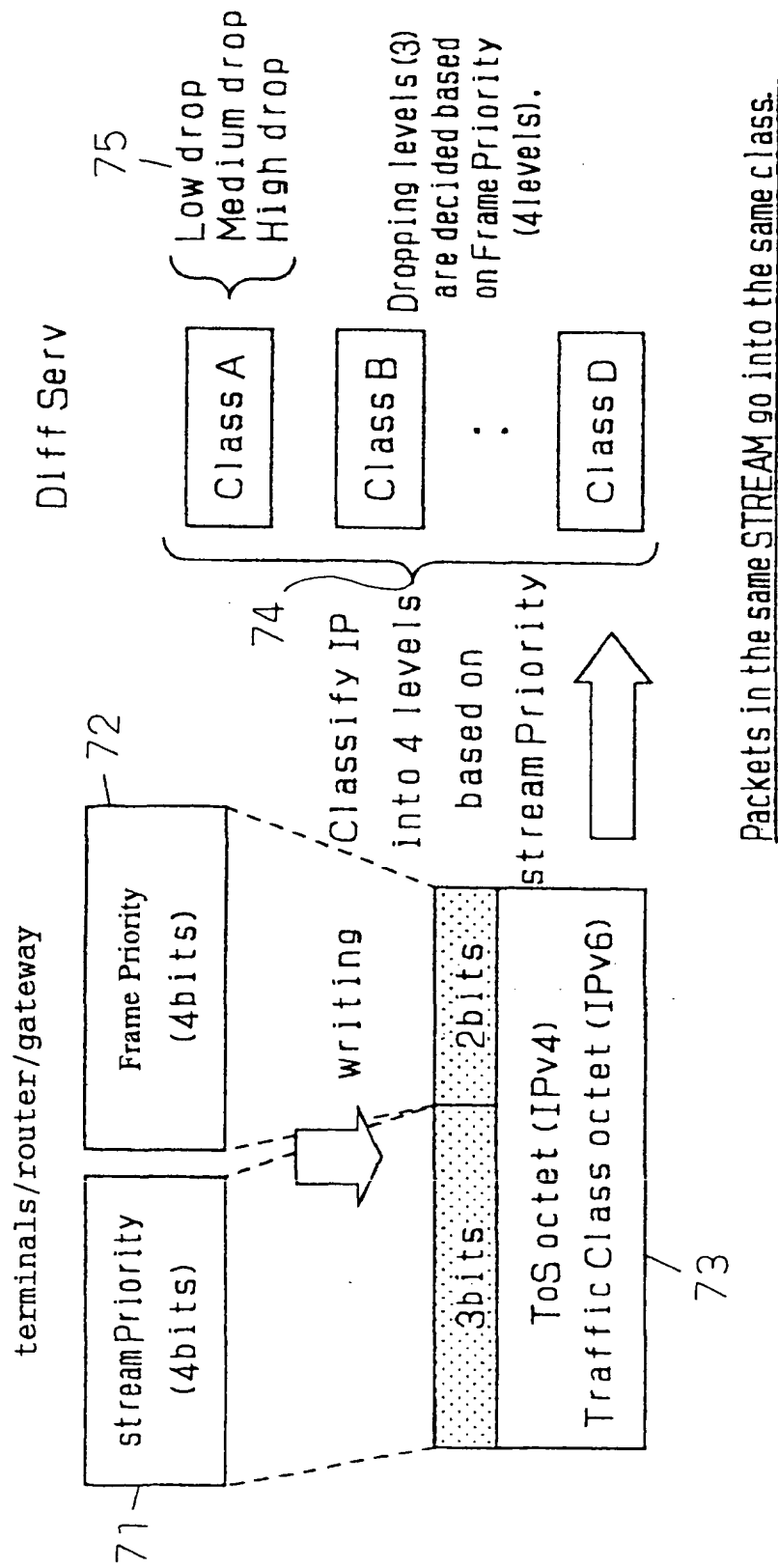


Fig. 24

